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PR Newswire. New York: Feb 2, 1998. pg. 1

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Abstract (Document Summary)

SUNNYVALE, Calif., Feb. 2 /PRNewswire/ -- Ariba Technologies, the leading provider of enterprise application software for Operating Resource Management (ORM), today announced and shipped Release 3.0 of the Ariba Operating Resource Management System (ORMS).

With the announcement of the Ariba ORMS R3.0, Ariba Technologies extends its market lead by providing significant new functionality for managing and reducing the costs of acquiring operating resources -- the goods and services needed to operate a company. Included in the new release are 67 features requested by Ariba customers during the company's Advisory Council process. New in Release 3.0 are industry-first capabilities including enterprise adapters for SAP, new features to manage the acquisition of capital and services through a new business forms module, enhanced support for purchasing cards, and an Internet-based system for synchronizing with supplier catalogs.

Ariba Technologies also announced today that ⓘVisa has moved from its Ariba ORMS pilot to an enterprise-wide deployment using Ariba ORMS R3.0. ⓘVisa plans to use the Ariba ORMS to expand its internal Visa Purchasing card program to preferred suppliers and to automate the reconciliation of the items electronically ordered.

Full Text (768 words)

Copyright PR Newswire - NY Feb 2, 1998

Industry: COMPUTER/ELECTRONICS

Offers Unprecedented Functionality for Control and Management of Operating

Resources

SUNNYVALE, Calif., Feb. 2 /PRNewswire/ -- Ariba Technologies, the leading provider of enterprise application

software for Operating Resource Management (ORM), today announced and shipped Release 3.0 of the Ariba Operating Resource Management System (ORMS).

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"I am particularly pleased to have maintained our rapid development cycle and shipped 3.0 only 4 months after shipping Release 2.0," said Keith Krach, president and CEO of Ariba Technologies. "Today's announcement demonstrates our commitment to leading the industry with the solutions that large enterprises need to improve their ability to manage and reduce the costs of acquiring operating resources."

Ariba Technologies also announced today that ⓘVisa has moved from its Ariba ORMS pilot to an enterprise-wide deployment using Ariba ORMS R3.0. ⓘVisa plans to use the Ariba ORMS to expand its internal Visa Purchasing card program to preferred suppliers and to automate the reconciliation of the items electronically ordered.

Ariba ORMS

Operating Resources are the industrial supplies, office supplies, capital equipment, internal and external services, and other non-production items that an enterprise acquires to support its day-to-day operations. Operating resources account for a third or more of the expenditures made by a typical Fortune 1000 company. More importantly, nearly 95 percent of all operating resources are acquired and managed using paper-based processes. The Ariba ORMS R3.0 addresses the enormous problem of acquiring, managing, and controlling operating resources. The Ariba ORMS uses corporate intranets and the Internet to automate the entire process of acquiring operating resources. For example, in purchasing, the Ariba ORMS automates the process from requisition creation, through approval, payment, and receiving. This provides the information needed to manage and improve the overall quality of the purchasing function while also reducing transaction costs.

Ariba ORMS R3.0

The following are significant new features in the Ariba ORMS R3.0:

SAP Enterprise Adapters -- These adapters add to the PeopleSoft and **Oracle** Applications adapters already shipped and enable the **Ariba ORMS** to share financial, purchasing, and human resources data with the **SAP** Enterprise Resource Planning System. This new capability was jointly developed by ⓘAndersen Consulting and **Ariba** Technologies. "Critical to the success of ORM is integration with ERP systems such as **SAP**," said Steve Lorack, partner at ⓘAndersen Consulting. "**Ariba** recognized this requirement early in their product development process and then worked with ⓘAndersen Consulting to specify and build the **SAP** interface that they are now delivering."

Purchasing Card Automated Reconcilement -- This is an industry-first capability that combines the efficiency of electronic purchasing with electronic payment via a Purchasing card into a single, automated process. Automated reconcilement provides users with the confidence of appropriate payment without the manual difficulties offered in most payables processes.

Capital And Services -- The acquisition of capital and services are significant spending items in most organizations. However, unlike the purchase of catalog items, these ORMS applications require the capture of fielded data unique to each ORM acquisition. The Ariba ORMS R3.0 includes a new electronic forms capability that makes this possible during the submission and approval process.

Publish And Subscribe Catalog Manager -- The Ariba ORMS creates an aggregated catalog of the items available from all of a company's vendors, both internal and external. This new catalog manager provides complete automation of the transfer of catalog information between supplier and customer and the process of approvals, if required, of newly updated catalog data. This capability is particularly important to large enterprises that have

potentially thousands of suppliers, each with different negotiated terms of sale.

About Ariba Technologies, Inc.

Ariba is the leader in Operating Resource Management (ORM) solutions for Global 2000 corporations. The company's products deliver a high Return on Investment through reduced ORM transaction costs and improved management of the acquisition of the goods and services required to operate a company. The products leverage the Internet and intranets to connect buyers to suppliers and thin-client network computing to make deployment to every desktop possible. Ariba can be reached at 408-543-3800 or at www.ariba.com. SOURCE Ariba Technologies, Inc.

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7. **Ariba Technologies Announces Release 3.0 of Ariba ORMS(TM)**
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Lesson 113: Lightweight directory access protocol

Alan Frank. **Network**. San Francisco: Jan 1998.Vol.13, Iss. 1; pg. 27, 2 pgs

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Author(s):	Alan Frank
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Abstract (Document Summary)

An explanation of the Lightweight Directory Access Protocol (LDAP) is provided. LDAP sets forth a standard for how network applications can access directories. It is easy enough to implement that it has been embraced by many vendors, and it holds forth the promise of directory interoperability.

Full Text (1990 words)

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[Headnote]
An offshoot of X.500, LDAP may be the simple, universal directory of the future.

This lesson relates closely to "Lesson 109: Directories" (Network Magazine, September 1997, page 25, by Alan Frank), which discusses directories in general. This month I will focus on a specific directory technology: the Lightweight Directory Access Protocol (LDAP).

As "LDAP" suggests, it started life as an access method, not a directory. By establishing a protocol, LDAP standardizes how an application can "talk" to a directory. LDAP was originally designed to be a lightweight front end to t500 directories. X.500 is the ISO's robust and comprehensive directory standard.

However, at least in its early stages, X.500 took quite a bit of computing power to implement. Researchers at the ⓘUniversity of Michigan conceived LDAP as a simplified replacement for X.500's native access protocol, known as the Directory Access Protocol. An X.500 directory could be run on a mainframe, minicomputer, or other high-horsepower machine, while individuals with PCs and other computationally challenged machines could use LDAP to access the directory.

Despite LDAP's beginnings as a front end to X.500 directories, work at the ⓘUniversity of Michigan soon turned to

developing a standalone LDAP-based directory that could be accessed by any LDAP client. Since then, IETF standards efforts have also been directed toward standalone LDAP directories.

THE LDAP STANDARD(S)

Efforts to make LDAP an Internet standard resulted in RFC 1487, which describes LDAP 1. This document has since been superseded by RFC 1777, which covers LDAP 2. The IETF working group responsible for Access, Searching, and Indexing of Directories (ASID) has since developed a proposal for LDAP 3 and submitted it for approval in the fall of 1997. For all practical purposes, it has been approved, but an RFC has yet to be issued (at least at the time of this writing). The draft document for LDAP 3 can be found at ftp://ftp.ietf.org/internet-drafts/draft-ietfasid-ldapv3-protocol-08.txt.

In theory, any LDAP-compliant application should be able to access any LDAP-compliant directory. The LDAP-compliant directory would then play the role of a server, while the application would function as an LDAP client. LDAP can be used to get information from a directory (such as finding out a user's e-mail address), as well as to store information (such as creating a new account).

HOW IT WORKS

The goal of a directory is to keep track of some entity, which might be a person, but could also be a printer or other resource, and to store relevant and needed information about that entity. An LDAP directory is organized into entries; there is an entry for each entity you want to keep track of. Each entry has attributes (for example, a name or e-mail address) that hold information about the entity. Each attribute has a name, a type, and one or more associated values. Take, for example, the network user John Doe. The entry for John in the directory may have an attribute named "mail," which stores John's e-mail address. The attribute type of the mail attribute might be String, which means that the information is stored as an ASCII text string, and the attribute value of the mail attribute for John Doe's entry might be jdoe@xyz.com.

Since you need to keep track of different attributes for a person than for a printer, entries have a type associated with them. An entry's type is known as its object class. An entry's object class defines what attributes it will have. How do we know what an entry's type is? That's held in a special attribute named objectClass.

What attributes are stored for a given object type is known as an object's schema. The schema is enforced according to an entry's object class, but one of the major extensions contained in LDAP 3 is the provision for an extensible schema. The LDAP 3 proposal defines a special object class called extensibleObject. If an entry's objectClass attribute contains the value extensibleObject, anything goes as far as what attributes are allowed. In other words, schema enforcement is overruled.

LDAP 3 also provides a method for clients to discover the schema, which is a very important, much-needed capability. For example, is a Social Security number or address information in the directory? If so, what's the attribute name? Schema discovery gives the LDAP client a means to find this out. In LDAP 1 and LDAP 2, a client had to know what the schema was-a major limitation.

NAVIGATING THE DIRECTORY

How do you find a particular entry in an LDAP directory? LDAP supports a hierarchical organization of the information in the directory. It's based on concepts borrowed from X.500, so if you've worked with X.500 or Novell Directory Services, which bases its naming scheme on X.500, you're probably familiar with LDAP's naming convention. LDAP entries are named according to their Distinguished Name, known as DN. For example, the DN for the John Doe entry might be "cn=John Doe, o=XYZ, c=US." This specifies the entry as having the common name "John Doe" in the U.S.-based organization "XYZ"

The complete description of LDAP's naming scheme can be found in RFC 1779.

LDAP OPERATIONS

An LDAP client uses TCP/IP to communicate with an LDAP server. By default, LDAP servers listen to port 389, so LDAP clients need to direct their requests to that port.

Communications between LDAP clients and servers are session-oriented, and the first thing a client must do when initiating a session is send a bind request. This establishes the session.

As part of the session setup procedure, LDAP directories require authentication of the client. LDAP 1 and LDAP 2 provide for a simple password-based authentication, but the password is sent in plain text. This is one of the issues spurring LDAP 3 work. (LDAP 1 and LDAP 2 can also use Kerberos authentication.) The LDAP 3 proposal allows for the use of something called Transport Layer Security (TLS), which is based on Secure Sockets Layer (SSL) 3.

LDAP defines several operations that an LDAP server can perform for a client. These include bind (which was already mentioned), unbind (which is issued to terminate the session), search (search for an entry), modify (modify an entry), add (add an entry for a new entity), del (delete an existing entry), modifyRDN (modify the RDN of an entry), compare (which I will explain), and abandonRequest (abandon a request that's pending).

Searches can, and typically are, limited in scope and by search criteria (known as search filters). A search filter is a means of determining what you're searching for. For example, you may be looking for any entries where "cn=Elvis." Another alternative is to do a substring search. A substring search for common names beginning with "e" might return entries for Edward Jones, Edna Edwards, and Eloise Smith, for example.

The ability to set filters is a very powerful aid in searching the directory, and LDAP's filtering possibilities are very flexible. You can require either exact or approximate matches for your filter criteria, as well as use greaterthan-or-equal-to or less-than-or-equal-to comparisons. You can also use the And, Or, and Not functions to look for matches for various combinations of attributes and values. When submitting a search request, the client must provide a parameter called **baseObject**, which is the DN of the entry, from which point the search will begin. For example, if you're looking for someone in company XYZ, you might specify "o=XYZ, c=US" as the **baseObject**.

With **baseObject** as the starting point, how far should the search extend? That's defined by the scope parameter. Scope can have one of three values. The first is a subtree search, which means everything "below" the **baseObject** will be searched (in other words, **baseObject** will be the root of the search operation).

The second possibility for scope is a onelevel search. This will search all entries for which the specified **baseObject** is the immediate parent. For example, if there was an entry for the accounting department in company XYZ, you could search for all the entries that are immediately subordinate to the accounting department entry by setting the base

Object to "ou=Accounting, o=XYZ, c=US," and setting the scope to one-level. ("Ou" stands for the object type Organizational Unit.) Note that if you wanted to find every single entry that falls under the organizational unit "Accounting," you would need to use the subtree scope, not one-level scope. The third option for scope is a base-object scope, which will only return the entry for the base object itself. This is handy when you want to look up a certain attribute (or collection of attributes) for a specific entry, and when you know exactly which entry you want. For example, if you just wanted to find out John Doe's e-mail address, you might specify a **baseObject** "cn=John Doe, o=XYZ, c=US," and set the scope to a base-object search. When an LDAP server gets a request from a client, it will execute that request, if it can, and return a response message. The response might be an error code (in cases where the request could not be honored) or the results of the operation requested by the client. In the case of a search request, for example, the LDAP server will return all entries that meet the submitted scope and filter criteria.

When submitting a search request, you also specify how much information should be returned. For example, you might specify that only the first 30 entries that are found should be returned. You can also specify how many seconds to spend on the search.

Whenever the server finds an entry that matches your search criteria, it will return the entire entry (subject to whatever access permissions you have). But you can elect to have only certain attributes returned, such as a telephone number. Your request message must include a list of all the attributes you wish to have returned; if no attributes are specified, that is, if it's an empty list, you will get the entire entry.

The compare operation lets you check to see if the value of an attribute for a specific entry matches some value that you're testing for. You could, for example, verify that John Doe's email address is indeed jdoe@xyz.com by issuing a compare request for the entry "cn=John Doe, o=XYZ, c=US," and specifying the attribute/value assertion "mail= jdoe@xyz.com." The LDAP server will look up the requested entry and return a response code of

compareTrue or compareFalse. If it can't execute the operation, it will return an error code.

REFERRALS

In LDAP 1 and LDAP 2, no provision was made for LDAP servers returning referrals to clients. However, in the case of failed queries (where, for example, a search is made for an entry that does not exist in one LDAP directory, but might exist in another), LDAP 3 provides a method for the LDAP server that's getting the initial request to return a referral to another LDAP server. The LDAP client can then issue the request to the server identified in the referral.

FOR MORE INFO

A good overall description of LDAP and LDAP concepts can be found in the book LDAP: ProgrammingDirectory-Enabled Applications with Lightweight Directory Access Protoco, by Tim Howes and Mark Smith (1997, Macmillan Technical Publishing). Other good sources of information are An LDAP Roadmap & FAQ, by Jeff Hodges of ⓘStanford University (www.leland.stanford.edu/group/ networking/directory/x500ldapfaq.html), and LDAP information pages maintained by Critical Angle, a developer of LDAP servers and related technology (critical-angle.com/ ldapworld/ldapv3.html).

ENABLING DIRECTORY ACCESS

LDAP sets forth a standard for how network applications can access directories. It's also simple and easy enough to implement that it's been enthusiastically embraced by many vendors, so it's rapidly becoming the lingua franca of directory operations. In a world where each application and operating system has its own proprietary directory, LDAP holds forth the promise of directory interoperability. But for now, that interoperability extends for the most part only to simple browsing operations. *

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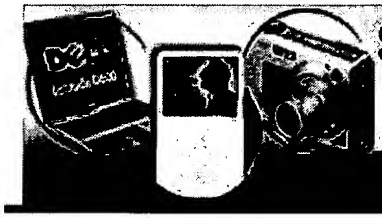

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Ariba Settles With EPlus For $37 Million

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ePlus has been awarded a $37 million settlement for its patent infringement suit against rival Ariba.

A Federal Court jury in Alexandria, VA found that Ariba willfully infringed three ePlus software patents relating to electronic procurement systems. The February 7th jury verdict found that all ePlus patent claims tried in court, and associated elements, were valid and that Ariba willfully infringed in every instance.

"This settlement is in the best interest of ePlus and our customers, as it eliminates the uncertainty of the trial and inevitable appeals process which can take several years," said Phillip G. Norton, ePlus' chairman, chief executive officer and president, said. "We believe the settlement affirms the value of ePlus' intellectual property, and will create better marketplace awareness of our software and Enterprise Cost Management solutions."

The agreement calls for Ariba to pay ePlus $37 million in three cash installments, all due by March 31, 2005. Any late payment by Ariba of the settlement amount will result in an automatic revocation of Ariba's license rights, without refund.

As part of the agreement, ePlus has also obtained a cross-license to all Ariba patents, patent applications and foreign patent counterparts presently owned by Ariba, and any acquired by Ariba for three years after the settlement date.

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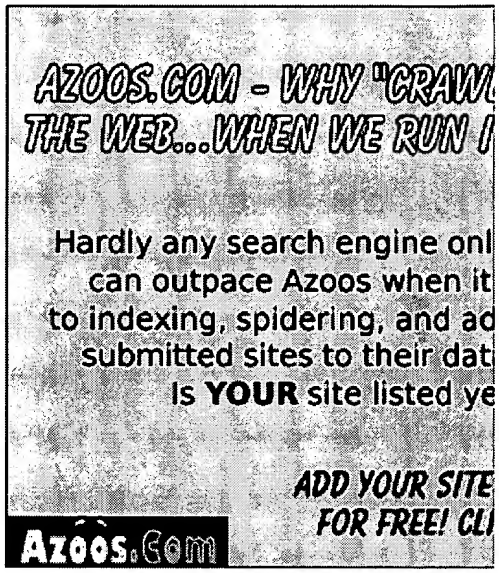

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